

Regarding the objections to Claims 21, 26, 27 kindly enter the following amendment.

Amend Claim 21 as follows:

Claim 21 (amended). A method of fabricating a superheated vapor generator and control system ~~comprises~~ comprising the steps of:

- (1) (a) providing at least two separate parts of a vapor generator;
- (2) (b) fastening said parts together to form a vapor generator defining a vaporization chamber;
- (3) (c) providing means for connecting to control means for input to said vapor generator for controlling input of liquid into said vaporization chamber.

Amend Claim 26 as follows:

Claim 26(amended). A method for cleaning selected objects comprising the steps of:

- (1) (a) generating superheated vapor; and
- (2) (b) controlling volume, pressure or direction of output superheated vapor for a selected object to be cleaned.

Amend Claim 27 as follows:

Claim 27 (amended). A method for propulsion comprising the steps of:

- (1) (a) generating superheated vapor; and
- (2) (b) controlling output of superheated vapor to provide propulsion.

It will be noted that, besides the informalities referred to in the Office Action, a minor informality has been eliminated in Claim 21.

I. THE REJECTION OF CLAIMS 1-8, 11, 12, 26 AND 27 UNDER 35 USC 102(e) AS ANTICIPATED BY THE HUTCHINSON REFERENCE (U.S. PATENT NO. 6,393,212) IS INCORRECT AND IS RESPECTFULLY TRAVERSED.

Anticipation under 35U.S.C. Section 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention. Electro Med. Sys. S.A. v. Cooper Life Sciences, 34 F. 3d 1048, 1052, 32 USPQ 2d 1017, 1019 (Fed. Cir. 1994).

The Hutchinson reference clearly does not meet the very specific requirements for anticipation set forth in the above-cited authority.

The Hutchinson device is a steam boiler operating within an immersable heater in a liquid. The invention of the application is a flash boiler with a superheated vaporization chamber. The internal ports of Hutchinson are restrictions as the water in the Hutchinson device heats to create sufficient pressure for steam to exit. Regulation of output is accomplished by spray nozzles and controls thereof at the output of the Hutchinson device. See for example Hutchinson, column 3 lines 49–58; see also column 8, lines 27-29.

In the above-cited passages, it is crystal clear that the Hutchinson device regulates output by means of the output port 48 and generation of superheated steam is a slow step-by-step process: “Water is injected at input and flows through a series of time delay turbulent [sic] creating baffles positioned in the heating cylinder to form a diffused flow path of variable length and dwell time as it passes from the input to the exit. In the steam generating mode the diffused spiral flow path will cause the small amount of water injected at the input to be converted to steam as it is transported to the output port.” Hutchinson, Column 3, lines 42-48.

In a passage cited by the Examiner, the Hutchinson disclosure states: "Pulse type piston pump 30 provides low flow capacity and pressure required to inject feed water into the input 12 against the steam generating cylinder 10 internal pressure as regulated by output variable pressure regulating control valve 48." Hutchinson, column 6, lines 56-60. (Emphasis added).

"Another unique feature of the invention is the use of a variable pressure control valve 48 at the output 14 of steam generating cylinder 10. Variable pressure control valve 48 allows both the pressure and flow volume of the steam output of heater/baffle system to be controlled. Variable pressure control valve 48 also allows further regulation of the overall fluid/vapor dwell time for the formation of steam within steam generating cycle 10. Variable pressure control valve 48 also allows direct control of the output pressure . . . ." Hutchinson, column 8, lines 20-29. (Emphasis added).

This is in complete contrast to the regulation feature of the instant invention at the input as defined in the subject claims. Because Applicant's device comprises a flash boiler, as opposed to a relatively slow immersible heater with a complex baffle arrangement as in the Hutchinson reference, there is no counterpart in Hutchinson to the "adjustable control means for controlling input of liquid into said vaporization chamber whereby generations of superheated vapor is controllable," as recited in Claim 1 hereof, nor is there any suggestion thereof. All control in the Hutchinson reference is at the output port 48. Any input control would be contraindicated because of the basic difference in structure and function between a flash boiler and the heating arrangement in Hutchinson.

Accordingly, Claims 1, 2 cannot be, and are not anticipated by the Hutchinson reference.

Similarly, Claims 3-8, 11, 12, 26 and 27 are not anticipated by Hutchinson in view of the “adjustable control means for controlling input of liquid into said vaporization chamber” contained in the base Claim 1, which limitation is as noted not present in the Hutchinson reference.

Accordingly, rejection under 35 USC 102(e) is not well-taken, should be reconsidered, and should be withdrawn.

The rejection under 35USC 103 of Claims 1-8 and 11-27 as unpatentable over Friedheim (U.S. Pat. No. 5,471,556) or Friedheim (U.S. Pat. No. 4,414,037) in view of Hutchinson (U.S. Pat. No. 6,393,212) is not well taken, is traversed, should be reconsidered, and should be withdrawn.

As noted above, the Hutchinson device and the apparatus of the present application are wholly distinct and are in totally different fields: Applicant's being a flash boiler (a device for extremely rapidly – i.e., “flash” - - production of superheated vapor, as opposed to the relatively slow and relatively low temperature production and vapor of the Hutchinson device).

On that ground alone, there would be no incentive for anyone skilled in the art to seek in any field of search for the Hutchinson device in an attempt to reconstruct the device of the instant application.

Moreover, there is no showing or suggestion in the art of record, singly or combined, of the input port control recited in the claims of the instant application. There would in fact be no point to an input control for the Hutchinson device because of the relative slowness of the generation of superheated vapor thereby, rendering any such input control ineffective and superfluous.

It is the "flash boiler" aspect of the present invention which makes it at all reasonable to employ input control for the purpose of controlling output of superheated vapor. Clearly, as described in the specification, a variation in the flow of liquid into the vaporization chamber will result in substantially completely extremely rapidly vaporized superheated vapor, and will vary the output, since the superheated vapor upon its creation from the input liquid is available for issuance at the output. This is not the case for slow and relatively low temperature device of Hutchinson.

The Berthoud reference (U.S. Pat. No. 3,863,841) is inapposite and inapplicable on similar grounds as discussed above in connection with the Hutchinson reference. Berthoud involves spray nozzles and control thereof for control of liquid at output for large volume and area spraying such as fields.

In the instant invention as defined by the claims, output volume is controlled at the input by controlling input of liquid for vaporization. Output control herein merely reduces volume and adjusts final exit pressure.

The Wahlin reference (U.S. Pat. No. 2,683,626) is inapposite and inapplicable: the device provides means to control sprays at the output of a dispensing system.

On the basis of the foregoing, it is respectfully submitted that the objections and rejections in the Office Action should be reconsidered and withdrawn, and the claims allowed.

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Respectfully submitted,  
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